Remarks

Preliminary Matters

Claims 1-2, and 4-21 are presented for reconsideration. Claim 3 has been canceled. Claims 1, 2, 4, 10, 12, 17, 18, and 21 have been amended.

The Specification has been amended to correct informalities and to remove embedded hyperlinks. No new matter has been added.

Rejections Under 35 U.S.C. § 102

Claims 1-21 were rejected under 35 U.S.C. § 102(e) as being unpatentable over Gobin *et al.*, U.S. Patent No. 6,745,229 (Gobin).

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). MPEP Sec. 2131. The identical invention must be shown in as complete detail as is contained in the ... claim." *Richardson v. Suzuk"i Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). The elements must be arranged as required by the claim.

Applicant has amended the claims herein in order to distinguish Gobin. Claim 3 has been canceled, and its limitations have been incorporated into its base claim 1. Amended independent claim 1 is now directed, *inter alia,* to creating a copy of a socket used to establish a connection between a client and a server, enqueueing the copy of the socket in a download manager,

closing the socket, and downloading information to the client using the copy of the socket. As explained, e.g., at paragraph [0009] of the Specification, this technique consumes relatively few resources in the web server, as the overhead involved in keeping the original socket open is eliminated. Consequently, the server is free to accept more concurrent requests from clients than would be the case if the original socket remained open.

The relevant disclosure in Gobin, relied upon by the Examiner, is found at col. 9, lines 13-25.

> Asynchronous transaction is supported generally for situations in which there may be a long delay in application server 40 response. Specifically, a proxy will accept a request from a customer or client 10 via an SSL connection and then respond to the client 10 with a unique identifier and close the socket connection. The client 10 may then poll repeatedly on a periodic basis until the response is ready. Each poll will occur on a new socket connection to the proxy, and the proxy will either respond with the resultant data or, respond that the request is still in progress. This will reduce the number of resource consuming TCP connections open at any time and permit a user to close their browser or disconnect a modem and return later to check for results.

Gobin discloses establishing a connection between a server and client using a socket, and closing the socket. Gobin does not disclose making a copy of the socket, enqueueing the copy of the

socket in a download manager, and using the copy of the socket to download data. Rather, the client is forced to burden the server by reopening TCP connections an unlimited number of times in order to determine whether the desired data is available. As Gobin states explicitly, each polling operation occurs on a new socket connection.

Regarding the construction of a copy of the socket and closing the socket, originally recited in claim 3 (canceled), now in amended independent claim 1, and in dependent claim 11, the Examiner cites col. 3, lines 1 - 11 of Gobin:

> At the enterprise side, the present invention includes a number of web servers for managing customer sessions over the Internet. The web servers support a secure socket connection enabling encrypted communications between the client browser application and the web servers. The web servers are physically isolated and firewalled from the enterprise's internal network (Intranet) and also from the public Internet. In addition, the web servers are typically responsible for maintaining the client browser and Java application/applets for downloading to the client workstation.

Gobin is describing a secure socket connection with the client, firewalling, and browser maintenance. Applicant respectfully disagrees with the Examiner on this point, and urges that Gobin does not disclose or even suggest constructing copies of a socket or using such copies as recited in the above-mentioned claims.

Independent claims 10 and 18 have also been amended to recite the above-described subject material.

Support for the amendments of independent claims 1, 10, and 18 is found, e.g., at paragraph [0036] of the Specification:

> [0036] The server program 24 maintains a connection with the download manager 28 via another socket, which is typically an unnamed socket. Alternatively, a named socket can be used. If the download request is validated, the filename and the descriptor of the client connection socket that connects the server program 24 with a particular one of the clients 12 is transmitted to the download manager 28 using the other socket and is enqueued in the queue 32. Thus, a copy of the client connection socket is effectively transferred from the server program 24 to the download manager 28.

Independent claims 1, 10 and 18 as amended are patentable over Gobin because Gobin fails to teach or suggest, as required by independent claims 1, 10, and 18, establishing a connection between a client and a server using a socket, creating a copy of the socket, enqueueing the copy of the socket in a download manager, closing the socket; and downloading information to the client using the copy of the socket.

Notwithstanding the patentability of independent claims 1, 10, and 18, dependent claims 2, 12 and 21, as amended are independently patentable over Gobin. These claims are directed to conversion of the copy of the socket used in the download manager

from a blocking socket to a non-blocking socket. The Examiner has cited col. 7, lines 47-56 of Gobin as anticipating this element. Here Gobin teaches:

> As illustrated in FIG. 2, after one of the DMZ Web servers 24 decrypts and verifies the user session, it forwards the message through a firewall 25b over a TCP/IP connection 23 to the dispatch server 26 on a new TCP socket while the original socket 22 from the browser is blocking, waiting for a response. The dispatch server 26 unwraps an outer protocol layer of the message from the DMZ services cluster 24, and re-encrypts the message with symmetric encryption and forwards the message to an appropriate application proxy via a third TCP/IP socket 27. While waiting for the proxy response all three of the sockets 22, 23, 27 block on a receive.

Socket 22 is the original socket established between the client and server. Sockets 23 and 27 are internal to the server, and correspond roughly to the internal unnamed socket described in the Specification (paragraph [0036]) that connects a server application to a download manager. None of these three sockets corresponds to the recited copy of the original socket. Furthermore, Applicant believes that the expression in Gobin "while the original socket 22 from the browser is blocking" simply refers to the normal blocking function of a blocking socket that automatically disappears upon completion of a relevant operation in order to allow an application to progress. There is no "conversion" of a blocking socket to a non-blocking

socket. Amended dependent claims 2, 12 and 21 (and independent claim 18) are now directed to forcing a conversion of the copy of the socket from a blocking socket to a non-blocking socket. It is believed that these amendments more particularly claim the invention and distinguish Gobin.

Support for the amendments of claims 2, 12 and 21 are found in the Specification at paragraph [0039]

> [0039]. . . When the download manager 28 discovers that there is a new socket/file pair to be processed, it is added to the queue 32. The socket is made non-blocking using a UNIX or Linux system call such as fcntl (fd, F_SETFL, flags | O_NDELAY), in which the identifiers F_SETFL and O_NDELAY have conventional meanings. Non-blocking I/O is used by the download manager 28 to efficiently service all concurrent downloads while awaiting additional incoming requests from the server hardware 20.

The other dependent claims herein are believed to be allowable as pending from an allowable base claim.

Concluding Matters

It is believed that the amendments and remarks presented hereinabove are fully responsive to all the grounds of rejection and objections raised by the Examiner, and that the Application is now in order for allowance.

Applicant thanks the Examiner for his thorough consideration of the Application and appreciates the careful analysis of the art cited therein.

Respectfully submitted,

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